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THE CENTRAL AMERICAN *THYROPTERA*.

BY GERRIT S. MILLER, JR.

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Three specimens of *Thyroptera*, collected by G. E. Mitchell on the Escondido River at a point about fifty miles from Bluefields, Nicaragua, and now in the collection of the United States Department of Agriculture, are clearly referable to the species described by Lichtenstein and Peters in 1855 as *Hyonycteris discifera*.\* This bat was recognized as a distinct species by Tomes in a paper published in the Proceedings of the Zoölogical Society of London for 1856 (p. 179), but Dobson, in 1878,† placed the name *Hyonycteris discifera*, together with *Hyonycteris albiventer* Tomes ‡ and *Thyroptera bicolor* Cantraine § among the synonyms of the Brazilian *Thyroptera tricolor* Spix. While no specimens of the three nominal and probably valid South American species || are available for comparison with the Nicaraguan bat, there can be no doubt that the latter differs widely from any of these. It may be redescribed as follows:

***Thyroptera discifera*** (Lichtenstein and Peters).

*Hyonycteris discifera* Lichtenstein and Peters, Monatsber. K. Preuss. Akad. Wiss., Berlin (1854), p. 335, 1855.  
Tomes, Proc. Zoöl. Soc. London, 1856, p. 179.

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\* Monatsber. K. Preuss. Akademie Wiss., Berlin (1854), p. 335, 1855.

† Catalogue of the Chiroptera in the British Museum., p. 245, 1878.

‡ Proc. Zoöl. Soc. London, 1856, p. 179.

§ Bull. Acad. Roy. Sci. Bruxelles, VII, p. 489, 1845.

|| The type localities of these are: *Thyroptera tricolor*, Brazil; *T. bicolor*, Surinam; *T. albiventer*, Napo River, near Quito, Ecuador.

*Thyroptera tricolor* Dobson, Catalogue of the Chiroptera in the British Museum, p. 345, 1878 (in synonymy only; the description refers strictly to South American specimens).

*Type locality*.—Puerto Caballos, Honduras.

*Geographic distribution*.—Central America from Puerto Caballos, Honduras, south to Bluefields, Nicaragua.

*General characters*.—Size small; length about 45 mm.; tail, 26; forearm,

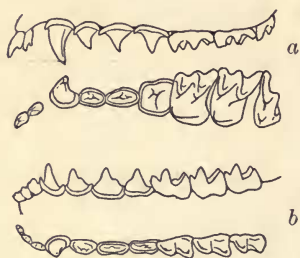


FIG. 1.—Teeth of *Thyroptera discifera*; a, upper; b, lower ( $\times 5$ ).

31. Calcar slender, distinct, slightly longer than free border of interfemoral membrane, terminating in an ill-defined lobule; the posterior edge with a well-formed keel supported by one strong cartilaginous process. Terminal 2 mm. of tail free. Free border of uropatagium with a few scattered hairs. Ears short, funnel-shaped, acutely pointed, when laid forward reaching barely to tip of nose. Wings from middle of claws. Third and fourth toes closely approximated and firmly bound together.

*Teeth*.—Dental formula as usual in the genus:  $i \frac{2-2}{6}$ ,  $c \frac{1-1}{1-1}$ ,  $pm \frac{3-3}{3-3}$ ,  $m \frac{3-3}{3-3} = 38$ . The teeth (Fig. 1) are small and weak for the size of the skull. Upper incisors bifid,\* in pairs, the outer tooth half as large as the inner and separated from the canine by a space about as wide as the crown of the larger incisor. Premolars all in the tooth row, not separated by spaces from each other or from the adjoining molar and canine, first slightly smaller than second, third slightly more than half as large as first molar. Crown of first molar broadest, crown of second longest. Lower incisors trifid, the crown of the outer as broad as that of the first and half of the second. First lower premolar smaller than second, but larger than canine. Middle lower molar largest.

*Ears*.—The ears are short, acutely pointed, funnel-shaped, and directed forward. The tips do not reach tip of nose when the ears are laid forward. The anterior border is strongly convex from base to small concavity just below very narrowly rounded off tip. Posterior border concave immediately below tip, then convex to basal notch. The basal notch is strongly developed and isolates a very large lobe which joins side of head below line of lips (Fig. 2).



FIG. 2.—Head of *Thyroptera discifera* ( $\times 3$ ).

Tragus short and broad, the tip thickened and bent abruptly forward; a large thickened basal lobe directed forward and outward, and a minute process directed backward just above posterior base.

\* Dobson states that in *Thyroptera tricolor* the outer incisor is unicuspidate.

*Membranes.*—The membranes are thin and semitransparent, broad and ample. Wings attached at middle of claws, sparsely hairy from sides of body to line connecting elbow and knee. The free edge has also a narrow hairy border. Antebrachial membrane hairy near base and along humerus and fleshy part of forearm, which in turn are covered with hair. Uropatagium sparsely haired throughout on dorsal surface, otherwise naked, except at extreme base and along veins on ventral surface.

*Feet.*—The feet are small, weak, and so turned outward as to be nearly in line with calcar (Fig. 3). Toes with two phalanges, of which the second is very small and serves merely to support the long claw. All the fingers are bound together by membrane

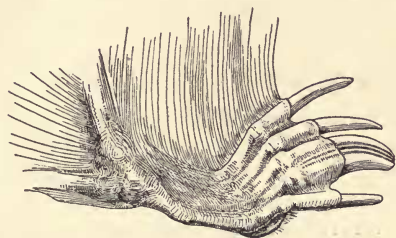


FIG. 4.—Right foot of *Thyroptera discifera* greatly enlarged to show syndactylism of third and fourth digits.

to about the middle of the claws, while the third and fourth digits are firmly united, so that the two claws, although really separate, form what is apparently one strong nail, shorter and more abruptly curved than the others (Fig. 4). Calcar strong, distinct, longer than free border of uropatagium, terminating in a small lobule and bearing a well-formed keel, supported by one strong cartilaginous process. Sucking disk circular, the margin next the phalanges distinct, that toward the keel not sharply marked off from sole.

*Fur and color.*—In distribution, the fur is peculiar in its extension on the wings and dorsal surface of the interfemoral membrane. Color dull yellowish brown throughout, scarcely paler ventrally, the hairs without darker bases. Ears and membranes dusky brownish.

*Measurements.*—No. 51538, ♀ ad., Escondido River, Nicaragua; total length, 66 mm.; head and body, 37.6; tail, 26; free tip of tail, 2; femur, 13; tibia, 13.4; foot, 4; forearm, 31; third finger—metacarp., 29.8; first ph., 14; second ph., 7.8; fourth finger—metacarp., 28.6; first ph., 10; second ph., 4.6; fifth finger—metacarp., 26; first ph., 8; second ph., 5.6; ear, 11.6; width of ear, 12; tragus, 4; diameter of disk on thumb, 3; diameter of disk on foot, 2.

No. 51539, ♀ ad., same locality and date; total length, 65; head and body, 38; tail, 26; free tip of tail, 1.8; femur, 14; tibia, 14.8; foot, 4.8; forearm, 31.6; third finger—metacarp., 29; first ph., 13.4; second ph., 8.4; fourth finger—metacarp., 29; first ph., 9; second ph., 5.4; fifth finger—metacarp., 25.6; first ph., 7.4; second ph., 6; ear, 12; width of ear, 12; tragus, 3.6; diameter of disk on thumb, 3.4; diameter of disk on foot, 2.

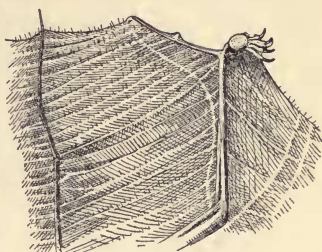


FIG. 3.—Foot and uropatagium of *Thyroptera discifera* ( $\times 2$ ).

to about the middle of the claws, while the third and fourth digits are firmly united, so that the two claws, although really separate, form what is apparently one strong nail, shorter and more abruptly curved than the others (Fig. 4). Calcar strong, distinct, longer than free border of uropatagium, terminating in a small lobule and bearing a well-formed keel, supported by one strong cartilaginous process. Sucking disk circular, the margin next the phalanges distinct, that toward the keel not sharply marked off from sole.

*General remarks.*—Of the three South American species of *Thyroptera*, two (*T. bicolor* and *T. albiventer*) are described as sharply bicolor, brownish above and white beneath, while the third (*T. tricolor*) is said by Dobson to be reddish brown on the back and pale yellowish white on the abdomen, and also to have dental characters not found in the Nicaraguan animal. In *Thyroptera tricolor* and *T. bicolor* the free part of the tail equals one-fourth or one-third of its whole length. In *T. discifera*, on the other hand, only the terminal joint and part of the penultimate joint project beyond the edge of the interfemoral membrane. *T. albiventer* is said to have the terminal joint only of the tail free, but the type specimen of this species was so mutilated that no dependence can be placed on this character. In size the four forms apparently agree very closely—at least it is impossible to find any important differences in the measurements given in the original descriptions.

The characters of *Thyroptera discifera* and of the South American species as described may be thus contrasted:

Both upper incisors bifid.....	<i>discifera</i>
Only the inner upper incisor bifid.....	<i>tricolor</i>
Sharply bicolor, or color of back distinctly different from that of belly.....	<i>albiventer, bicolor, tricolor</i>
Essentially unicolor.....	<i>discifera</i>
One-fourth to one-third of tail free from interfemoral membrane.....	<i>tricolor, bicolor</i>
Only tip of tail free.....	<i>albiventer (?) discifera</i>

The syndactylism of the third and fourth digits of the foot may prove to be peculiar to *Thyroptera discifera*. It is mentioned by Lichtenstein and Peters in the original description of the species, but none of the authors who have described South American specimens make any allusion to such a condition, although in most cases they have mentioned the form of the feet and claws with considerable detail.

Another character of *Thyroptera discifera* not mentioned in descriptions of the South American species, but probably common to all, is the large and conspicuous clitoris (see pl. VII). In the adult female this measures 1.6 mm. in length and is about half as long as the penis of a nearly full grown male. The vulva opens longitudinally with the anterior commissure encroaching on the basal third of the clitoris.